Proposed GMI variable list for GEOS5 met fields

Note: We are going to use the saved fluxes for the transport, so we will NOT be regridding and saving U and V. All fields, except the surface pressure field, are time averaged fields.

Key:
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Instantaneous Fields:

File: inst2d_met_x (8 times per day: 00, 03, 06, 09, 12, 15, 18, 21 GMT)

Name	Description
PHIS	Surface geopotential
PS	Surface pressure
DISPH	Displacement height
EFLUX	Latent heat flux at surface
HFLUX	Sensible heat flux at surface
LWI	Surface types
QV10M	Specific humidity at 10 m above displacement height
QV2M	Specific humidity at 2 m above displacement height
SLP	Sea level pressure
T10M	Temperature at 10 m above displacement height
T2M	Temperature at 2 m above displacement height
TAUX	Eastward (zonal) surface wind stress
TAUY	Northward (meridional) surface wind stress
TO3	Total column ozone
TQC	Total cloud condensate (ice & water)
TQV	Total water vapor (Total precipitable water)
TROPP	Tropopause pressure
TROPQ	Tropopause specific humidity
TROPT	Tropopause temperature
TSKIN	Skin temperature
TTO3	Tropospheric total column ozone
U10M	Eastward (zonal) wind at 10 m above displacement height
U2M	Eastward (zonal) wind at 2 m above displacement height
U50M	Eastward (zonal) wind at 50 m above displacement height
V10M	Northward (meridional) wind at 10 m above displacement height
V2M	Northward (meridional) wind at 2 m above displacement height
V50M	Northward (meridional) wind at 50 m above displacement height

File: inst3d_met_p (1 time per file, 4 files per day: 00, 06, 12, 18 GMT)

Name	Description
H	Geopotential height
O3	Ozone mixing ratio
QC	Total condensate mixing ratio
QV	Specific humidity
RH	Relative humidity
T	Air temperature
U	Eastward wind component
V	Northward wind component

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Time Averaged Fields:

File: tavg2d_met_x (1 file per time, 8 files per day: 01:30, 04:30, 07:30, 10:30, 13:30, 16:30, 19:30, 22:30 GMT)

Name	Description
ALBEDO	Surface albedo
ALBNIRDF	Diffuse beam NIR surface albedo
ALBNIRDR	Direct beam NIR surface albedo
ALBVISDF	Diffuse beam VIS surface albedo
ALBVISDR	Direct beam VIS surface albedo
BSTAR	Surface buoyancy scale
CLDHGH	High-level (above 400 hPa) cloud fraction
CLDLOW	Low-level (1000-700 hPa) cloud fraction
CLDMID	Mid-level (700-400 hPa) cloud fraction
CLDTOT	Total cloud fraction
DISPH	Displacement Height
DTG	Total rate of change in skin temperature
EFLUX	Latent heat flux (positive upward)
EMIS	Surface emissivity
EVAP	Surface evaporation
FRLAKE	Fraction of lake type in grid box
FRLAND	Fraction of land type in grid box
FRLANDICE	Fraction of land ice type in grid box
FROCEAN	Fraction of ocean in grid box
GRN	Vegetation greenness fraction
GWETROOT	Root zone soil wetness
GWETTOP	Top soil layer wetness
HFLUX	Sensible heat flux (positive upward)
LAI	Leaf area index
LWGDWN	Surface downward longwave flux
LWGNETCLR	Net surface downward longwave flux assuming clear sky
LWGNET	Net surface downward longwave flux at the ground
LWGUP	Longwave flux emitted from surface (upward)
LWI	Surface types
LWTUP	Upward longwave flux at top of atmosphere
LWTUPCLR	Upward longwave flux at top of atmosphere assuming clear sky
PARDF	Surface downward photosynthetically active radiation diffuse flux
PARDR	Surface downward photosynthetically active radiation beam flux
PBLH	Planetary boundary layer height
PRECANV	Surface precipitation flux from anvils
PRECCON	Surface precipitation flux from convection
PRECLSC	Surface precipitation flux from large-scale
PRECSNO	Surface snowfall flux
PRECTOT	Total surface precipitation flux
PS	Time averaged surface pressure
QV10M	Specific humidity interpolated to 10 m above the displacement height
QV2M	Specific humidity interpolated to 2 m above the displacement height
RHOA	Surface air density
SLP	Sea level pressure
SNOMAS	Snow mass as liquid water equivalent depth
SNODP	Snow depth
SWGDWN	Surface downward shortwave flux
SWGDWNCLR	Surface downward shortwave flux assuming clear sky
SWGNET	Net surface downward shortwave flux
SWGNETCLR	Net surface downward shortwave flux assuming clear sky
SWTDWN	Incident shortwave radiation at top of atmosphere
SWTUP	Top of atmosphere outgoing shortwave flux

SWTUPCLR	Top of atmosphere outgoing shortwave flux assuming clear sky
T10M	Temperature interpolated to 10 m above the displacement height
T2M	Temperature interpolated to 2 m above the displacement height
TAUGWX	Eastward (zonal) gravity wave surface stress
TAUGWY	Northward (meridional) gravity wave surface stress
TAUHGH	Optical thickness of high clouds
TAULOW	Optical thickness of low clouds
TAUMID	Optical thickness of mid-level clouds
TAUTOT	Optical thickness of all clouds
TAUX	Eastward (zonal) surface wind stress
TAUY	Northward (meridional) surface wind stress
TO3	Total Column Ozone
TPW	Total precipitable water
TROPP	Tropopause pressure
TROPQ	Tropopause specific humidity
TROPT	Tropopause temperature
TSKIN	Skin temperature
TTO3	Tropospheric Total Ozone Column
U10M	Eastward (zonal) wind at 10 m above displacement height
U2M	Eastward (zonal) wind at 2 m above the displacement height
U50M	Eastward (zonal) wind at 50 m above displacement height
USTAR	Surface velocity scale
V10M	Northward (meridional) wind at 10 m above the displacement height
V2M	Northward (meridional) wind at 2 m above the displacement height
V50M	Northward (meridional) wind at 50 m above displacement height
Z0H	Roughness length, sensible heat
Z0M	Roughness length, momentum

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File: tavg3d_prs_v (1 time per file, 4 files/day: 00, 06, 12,18 GMT)

Name	Description
PS	Surface pressure (two-dimensional field)
DELP	Pressure difference between layer edges
PL	Layer pressure

File: tavg3d_dyn_v (1 time per file, 4 files/day: 00, 06, 12,18 GMT)

Name	Description
PS	Surface pressure (two-dimensional field)
DELP	Pressure difference between layer edges
DTDTTOT	Temperature tendency from physics (total diabatic)
HGHT	Geopotential height at mid-layer
MFXC	Eastward layer mass flux on the C-Grid
MFYC	Northward layer mass flux on the C-Grid
O3	Ozone Mixing Ratio
OMEGA	Vertical pressure velocity
PV	Ertel's potential vorticity
QV	Specific humidity
RH	Relative humidity
T	Air Temperature
U	Eastward wind
V	Northward wind

File: tavg3d_cld_v (1 time per file, 4 files/day: 00, 06, 12, 18 GMT)

Name	Description
PS	Surface pressure (two-dimensional field)
DELP	Pressure difference between layer edges
CLOUD	3-D Cloud fraction
DQRCON	Rain production rate convective
DQRLSC	Rain production rate - large-scale
DTRAIN	Detrainment cloud mass flux
QI	Cloud ice water mixing ratio
QL	Cloud liquid water mixing ratio
TAUCLI	Layer total optical thickness of ice clouds
TAUCLW	Layer total optical thickness of liquid clouds

File: tavg3d_met_e (1 time per file, 4 files/day: 00, 06, 12, 18 GMT)

Name	Description
PLE	Edge pressure
CMFMC	Upward moist convective mass flux
HGHTE	Geopotential height at layer edges
KH	Total scalar diffusivity
KM	Total momentum diffusivity
MFZ	Upward resolved Mass flux

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File: tavg3d_mst_v (1 time per file, 4 files/day: 00, 06, 12, 18 GMT)

Name	Description
PS	Surface pressure (two-dimensional field)
DELP	Pressure difference between layer edges
DQIDTMST	Ice tendency from moist physics
DQLDTMST	Liquid water tendency from moist physics
DQVDTDYN	Water vapor tendency from dynamics
DQVDTMST	Water vapor tendency from moist physics
DQVDTTRB	Water vapor tendency from turbulence

File: tavg3d_tmp_v (1 time per file, 4 files/day: 00, 06, 12, 18 GMT)

Name	Description
PS	Surface pressure (two-dimensional field)
DELP	Pressure difference between layer edges
DTDTDYN	Temperature tendency from dynamics
DTDTFRI	Temperature tendency from frictional heating
DTDTGWD	Temperature tendency from gravity wave drag
DTDTLWR	Temperature tendency from long wave radiation
DTDTLWRCLR	Temperature tendency from long wave radiation (clear sky)
DTDTMST	Temperature tendency from moist physics
DTDTSWR	Temperature tendency from short wave radiation
DTDTSWRCLR	Temperature tendency from short wave radiation (clear sky)
DTDTTRB	Temperature tendency from turbulence

File: tavg3d_wnd_v (1 time per file, 4 files/day: 00, 06, 12, 18 GMT)

Name	Description
PS	Surface pressure (two-dimensional field)
DELP	Pressure difference between layer edges
DUDTDYN	U-wind tendency from dynamics
DUDTGWD	U-wind tendency from gravity wave drag
DUDTMST	U-wind tendency from moist physics
DUDTTRB	U-wind tendency from turbulence
DVDTDYN	V-wind tendency from dynamics
DVDTGWD	V-wind tendency from gravity wave drag
DVDTMST	V-wind tendency from moist physics
DVDTTRB	V-wind tendency from turbulence